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The Buddhist Tradition of Samatha:

Methods for Refining and Examining Consciousness

The Nature and Purpose of *Samatha*

Buddhist inquiry into the natural world proceeds from a radically different point of departure than western science, and its methods differ correspondingly. Early pioneers of the scientific revolution, including Copernicus, Kepler, and Galileo, expressed an initial interest in the nature of physical objects most far removed from human subjectivity: such issues as the relative motions of the sun and earth, the surface of the moon, and the revolutions of the planets. And a central principle of scientific naturalism is the pure objectification of the natural world, free of any contamination of subjectivity. This principle of objectivism demands that science deals with empirical facts testable by empirical methods entailing testability by third-person means; and such facts must, therefore, be public rather than private, which is to say, they must be accessible to more than one observer.

Another aspect of this principle is that scientific knowledge — paradigmatically knowledge of astronomy and physics — must be epistemically objective, which is to say, observer-independent. A profound limitation of this ideal is that it cannot accommodate the study of subjective phenomena, which presumably accounts for the fact that the scientific study of the mind did not even begin until three hundred years after the launching of the scientific revolution. And it was roughly another hundred years before the nature of consciousness came to be accepted as a legitimate object of scientific inquiry. In short, the principle of objectivity excludes the subjective human mind and consciousness itself from the proper domain of natural science.

In stark contrast to this objective orientation of western science, Buddhism begins with the premise that the mind is the primary source of human joy and misery and is

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central to understanding the natural world as a whole. In a well known discourse attributed to the Buddha he declares, 'All phenomena are preceded by the mind. When the mind is comprehended, all phenomena are comprehended.'[1] The mind and consciousness itself are therefore the primary subjects of introspective investigation within the Buddhist tradition. Moreover, just as unaided human vision was found to be an inadequate instrument for examining the moon, planets and stars, Buddhists regard the undisciplined mind as an unreliable instrument for examining mental objects, processes, and the nature of consciousness. Drawing from the experience of earlier Indian contemplatives, the Buddha refined techniques for stabilizing and refining the attention and used them in new ways, much as Galileo improved and utilized the telescope for observing the heavens. Over the next 2,500 years, Buddhist contemplatives have further developed and made use of those methods for training the mind, which they regard as the one instrument by which mental phenomena can be directly observed. As a result of their investigations, they have formulated elaborate, sophisticated theories of the origins and nature of consciousness and its active role in nature; but their inquiries never produced anything akin to an empirical study or theory of the brain.

They did, however, develop rigorous techniques for examining and probing the mind first-hand, and the initial problem in this endeavour was to train the attention so that it could be a more reliable, precise instrument of observation. With no such training, it is certainly possible to direct one's awareness inwards, but the undisciplined mind was found to succumb very swiftly to attentional excitation, or scattering; and when the mind eventually calms down, it tends to drift into attentional laxity in which vividness is sacrificed. A mind that is alternately prone to excitation and laxity is a poor instrument for examining anything, and indeed the Buddhist tradition deems such a mind 'dysfunctional'.

Thus, the first task in the Buddhist investigation of the mind is to so refine the attention and balance the nervous system that the mind is made properly functional, free of the detrimental influences of excitation and laxity. To do so, those two hindrances must be clearly identified in terms of one's own experience. Excitation, the first obvious interference to observing the mind, is defined as an agitated, intentional mental process that follows after attractive objects,[2] and it is a derivative of compulsive desire.[3] Laxity, on the other hand, is an intentional mental process that occurs when the attention becomes slack and the meditative object is not apprehended with vividness and forcefulness. It is said to be a derivative of delusion.

The types of attentional training Buddhists have devised to counteract excitation and laxity are known as *Samatha* (pronounced 'shamata'), the literal meaning of which is *quiescence*. It is so called, for *Samatha* is a serene attentional state in which

[1] *Ratnameghasutra*, cited in Santideva (1961), p. 68. This passage is found in the English translation of Santideva's work (1981), p. 121. A similar point is made by the Buddha in the opening verse of *The Dhammapada*: 'All phenomena are preceded by the mind, issue forth from the mind, and consist of the mind.' (1989, Ch. 1, v. 1.) All translations from the Pali, Sanskrit and Tibetan in this paper are my own.

[2] Wallace (1998) p. 168. A mental process is said to be *intentional*, not because one intends for it to occur, but because it has its own cognized object or objects.

[3] Compulsive desire is a mental affliction that by its very nature superimposes a quality of attractiveness upon its object and yearns for it. It distorts the cognition of that object, for attachment exaggerates its admirable qualities and screens out its disagreeable qualities. Cf. Guenther & Kawamura (1975), p. 96; Rabten (1979), pp. 74–5.

the hindrances of excitation and laxity have been thoroughly calmed. The discipline of *Samatha* is not bound to any one religious or philosophical creed. Such attentional training is found to varying extents in many of the contemplative traditions throughout history, including Hinduism, Buddhism, Taoism, Christianity and Sufism. It may be understood as a 'contemplative technology' that has been used in diverse ways by people holding widely different philosophical and religious views.

The central goals of the cultivation of *Samatha* are the development of attentional stability and vividness. To understand these two qualities in terms of Buddhist psychology, one must note that Buddhists commonly assert that the continuum of awareness is composed of successive moments, or 'pulses', of cognition each lasting for about ten milliseconds.[4] Moreover, commonly in a continuum of perception, many moments of awareness consist of non-ascertaining cognition, that is, objects *appear* to this inattentive awareness, but they are not *ascertained*.[5]

In terms of this theory, I surmise that the degree of attentional stability increases in relation to the proportion of ascertaining moments of cognition of the intended object; that is, as stability increases, fewer and fewer moments of ascertaining consciousness are focused on any other object. This makes for a homogeneity of moments of ascertaining perception. The degree of attentional vividness corresponds to the ratio of moments of ascertaining to non-ascertaining cognition: the higher the frequency of ascertaining perception, the greater the vividness. Thus, the achievement of *Samatha* entails an exceptionally high density of homogenous moments of ascertaining consciousness.

To return to the analogy of the telescope, the development of attentional stability may be likened to mounting one's telescope on a firm platform; while the development of attentional vividness is like highly polishing the lenses and bringing the telescope into clear focus. Tsongkhapa (1357–1419), an eminent Tibetan Buddhist contemplative and philosopher, cites a more traditional analogy to illustrate the importance of attentional stability and vividness for the cultivation of contemplative insight: in order to examine a hanging tapestry at night, if you light an oil-lamp that is both radiant and unflickering, you can vividly observe the depicted images. But if the lamp is either dim, or — even if it is bright — flickers due to wind, you would not clearly see those forms.[6]

The Use of a Mental Image as the Object in *Samatha* Practice

Among the wide variety of techniques devised for the cultivation of *Samatha*, one of the most commonly practised methods among Tibetan Buddhist contemplatives entails focusing the attention upon a mental image. This image may be of a visual object, such as a stick or pebble, although Tibetan Buddhists generally tend to prefer mental

[4] Vasubandhu, 1991, II, p. 474; cf. Jamgön Kongtrul Lodrö Tayé (1995) pp. 168–9.

[5] For a detailed account of non-ascertaining cognition see Lati Rinbochay (1981), pp. 92–110.

[6] I have translated a definitive presentation by Tsongkhapa of the cultivation of *Samatha* in Wallace (1998). The above analogy is found in the section entitled 'The reasons why it is necessary to cultivate both'.

images having great religious significance to them, such as an image of the Buddha.[7]

Regardless of the kind of technique one follows in the pursuit of *Samatha*, two mental faculties are said to be indispensable for the cultivation of attentional stability and vividness, namely, mindfulness and introspection. The Sanskrit term translated here as *mindfulness* also has the connotation of *recollection*, and it is the faculty of sustaining the attention upon a familiar object without being distracted away from it. Thus, when using a mental image as one's meditative object, mindfulness is fixed steadily upon that image. Moreover, that image must be clearly ascertained, otherwise the full potency of attentional vividness cannot arise, subtle laxity is not dispelled, and one's concentration will remain flawed.

Mindfulness of a mental image is said to be a kind of mental perception. In the actual practice of *Samatha* it is common first of all to attend visually to an actual physical object, such as a pebble; and once one has grown thoroughly familiar with its appearance, one proceeds to reconstruct a mental image of it and focus on that. In that phase of practice, mental perception apprehends the form of the pebble by the power of the visual perception of it. Thus, mental perception does not apprehend the pebble directly, but rather *recollects* it on the basis of the immediately preceding visual perception of that object.

According to Buddhist psychology, the mental image of the pebble is not a mental faculty or process, for it does not cognize its own object, but nor is it material in the Buddhist sense of being composed of particles of matter. Rather, it is regarded as a form for mental consciousness (cf. Hopkins, 1983, pp. 232–4), of the same type of qualia as the forms that appear in the dream-state. In this practice, one's mindfulness is focused on that mental image itself, not on the physical pebble of which the image is a likeness. In other words, it is the function of mindfulness to sustain the recollection of the image of the pebble, steadily observing it 'internally' in a manner analogous to the visual observation of the pebble itself.

Mindfulness is the principal means of accomplishing *Samatha*, but it must be accompanied by the mental faculty of introspection. While it is the task of mindfulness to attend, without forgetfulness, to the meditative object, introspection has the function of monitoring the meditative process. Thus, introspection is a type of metacognition that operates as the 'quality control' in the development of *Samatha*, swiftly detecting the occurrence of either excitation or laxity. In the Buddhist tradition, introspection is defined as the repeated examination of the state of one's body and mind (Śāntideva, 1997, V:108), and it is regarded as a derivative of intelligence.[8]

The Buddhist assertion of the possibility of introspection as a form of metacognition raises the interesting problem of whether or not it is possible for the mind to observe itself. Buddhists generally assert that at any given moment consciousness and its concomitant mental processes have the same intentional object; and at any given moment only one consciousness can be produced in a single individual

[7] The technique of focusing on a pebble or stick is found in the section entitled 'Instructions on quiescence with signs' in Padmasambhava (1998). Tsongkhapa opts for focusing on an image of the Buddha in the section entitled 'A presentation of actual meditative objects' in Wallace (1998). For a clear discussion of the technique of focusing on a Buddha-image by a contemporary Tibetan contemplative, see Lamrimpa (1995).

[8] Intelligence is defined as a mental process having the unique function of differentiating specific attributes or faults and merits of objects that are maintained with mindfulness. Cf. Rabten (1979), p. 63.

(Vasubandhu, 1991, Vol. I, pp. 206 & 272). Moreover, a famous discourse attributed to the Buddha declares that the mind cannot observe itself, just as a sword cannot cut itself and a fingertip cannot touch itself; nor can the mind be seen in external sense objects or in the sense organs (*Ratnacutasutra*, cited in Śāntideva (1971) pp. 220–1.)

I suspect the rationale behind that assertion is that even when one is aware of one's own subjective experience of an object, there is still a sense of separateness between the observer of that experience and the experience itself. The sense of duality remains. Within the context of ordinary, dualistic cognition, there can be no subjective awareness that has no object, just as there can be no object without reference to a subject that cognizes or designates that object. According to Tibetan Buddhist philosophy, subject and object are mutually interdependent. All phenomena experienced as subjects and objects arise within, and in dependence upon, the conceptual framework in which they are designated.

When one observes one's own subjective experience of an object, the observer seems to be distinct from that experience; and if one takes note of that observer, there remains a sense of duality between the noted observer and the one who notes that observer. This hypothesis of an observer perceiving a simultaneously existing observer perceiving a simultaneously existing observer leads to an infinite regress. The eighth-century Indian Buddhist contemplative Śāntideva avoids this problem by suggesting that instead of such metacognition occurring with respect to a simultaneously existing cognition, one is rather *recollecting* past moments of consciousness. In short, he hypothesizes that it is possible to recollect a subjective experience that was not previously cognized as a distinct, isolated entity. In his view, when one remembers seeing a certain event, one recalls both the perceived event and oneself perceiving that event. The subject and object are recalled as an integrated, experienced event, from which the subject is retrospectively identified as such; but he denies that it is possible for a single cognition to take itself as its own object (Śāntideva, 1997, IX: 23; cf. Dalai Lama, 1994, pp. 26–31).

To take an example, when one's attention is focused on the colour blue, one is not observing one's perception of that colour. However, when one's interest shifts to the experience of blue, one is in fact *recalling* seeing that colour just a moment ago. In this process, one conceptually and retrospectively isolates the subjective element from the remembered experienced event, in which the blue and one's experience of it were integrated. Thus, when the attention is shifted back and forth between attending to the colour and to remembering seeing the colour, it seems as if such a shift is comparable to shifting the attention from the objects at the center of consciousness to those at the periphery; but according to Śāntideva, the attention is instead shifted from the perceived object to a short-term recollection of a previous event. And in remembering that event, the subject is isolated and recalled, even though it was not its own object at the time of its own occurrence. When one is recalling a perception of an earlier event, there is still a sense of duality between oneself and the perception that one is recalling. A single cognition does not perceive itself, so the subject/object duality is sustained.

In this case, introspection, functioning as a kind of mental perception, *recalls* intentional mental processes, such as excitation and laxity, from a prior moment of experience. Experientially, when one concentrates fully on a visual object, mental perception is focused on that object, and it does not apprehend the *experience* of that

object. Then when the attention is shifted to the visual experience itself, the visual object becomes indistinct, though it does not fade out altogether. This apparent shift of the attention from the object to the subject seems to entail a shift within a subject/object field, or matrix, of visual experience: as one focuses more closely on the object, one becomes less conscious of the subject; and as one focuses more closely on the subjective experience, one becomes less conscious of the object. Śāntideva's point in this regard seems to be that although one is not conscious of the subjective experience of a visual perception while it is occurring, one may later recall the entire subject/object matrix, thereby bringing the initial subjective experience into consciousness.

The Stages of Development of *Samatha*

Progress in the gradual cultivation of *Samatha* is mapped out in terms of nine successive attentional states. The initial challenge in this training is to develop a continuity of sustained, voluntary attention, but in the first state, called *attentional placement*, the mind is strongly dominated by excitation. Indeed, because one is now consciously trying to sustain the attention unwaveringly on a single object instead of allowing it to roam about freely, it seems as if the mind were more overwhelmed by compulsive ideation than usual. One brings the mental image to mind, but almost immediately it is lost and the attention is scattered.

This initial, limited capacity for sustained attention is born out by modern experiments that have measured transient, focused attention on the basis of the performance of simple sensory tasks. Such research indicates that this transient, high level of focused attention lasts between one and three seconds (cf. Posner, 1978). Scientific investigation of attention during the late nineteenth century also indicated that voluntary attention cannot be sustained for more than a few seconds at a time. Such research led William James to conclude, '*No one can possibly attend continuously to an object that does not change.*' (James, 1950, I, p. 420.)

According to the Buddhist tradition, it is very difficult to attend continuously to an object that does not change, but that ability can be enhanced. During the successive stages of *Samatha* training, even the presence of mindfulness and introspection is no guarantee that progress will be made in sustaining the attention, for one may recognize the presence of laxity or excitation and still fail to take steps to counteract them. The remedy, Tsongkhapa declares, is the cultivation of the will, which is here closely associated with intervention and effort. According to Buddhist psychology, the will is the mental process that intentionally engages the mind with various types of objects and activities. In this case, when either laxity or excitation occurs, the mind is stimulated by the will to intervene in order to eliminate them. Tsongkhapa likens the relationship between the mind and the will to iron that moves under the influence of a magnet. The will to eliminate laxity and excitation is aroused by recognizing the disadvantages in succumbing to those hindrances and the advantages in overcoming them.[9] Thus, the initial two phases of this training are accomplished by learning about the nature of the practice and by contemplating the benefits of pursuing it.

[9] This topic is discussed in the section entitled 'Identifying the will and the means of stopping laxity and excitation' in Wallace (1998).

At the outset of this training, one is encouraged to practise for many short sessions each day — as many as eighteen, fifteen-minute sessions — with as few distractions between sessions as possible. As a result of persevering in this practice, it is said that one ascends to the second attentional state called *continual placement*. During this phase, the mind is still subject to so much excitation that the attention is more often not on the object than on it, but at times one experiences brief periods of attentional continuity, for up to a minute or so. In other words, on occasion, for up to a minute, the attention does not completely disengage from the chosen mental image. But even during those periods of sustained attention, the mind is still prone to subtle excitation, which manifests as peripheral 'noise', or mental chitchat. Experientially, it seems as if one's attention is still fixed on the mental image even while other thoughts and sensory impressions come to mind. According to Buddhist psychology, however, it seems more likely that the attention is disengaged from the mental image during those interludes, but the breaks are so brief that there seems to be an unbroken continuity of attention to the main object. In any case, at this point only a gross level of attentional stability has been achieved, and that, too, is interspersed with periods of gross excitation, in which the meditative object is forgotten altogether.

As one continues in the training, one gradually reduces the number of sessions per day, while increasing the duration of each one. The emphasis in this regard is always on maintaining the highest quality of attention, rather than opting for mere quantity of time spent in the training. The next attentional state in this development is called *patched placement*, at which point the attention is mostly on the meditative object, and its continuity needs only to be patched up now and then when gross excitation occurs. Thus, there are more frequent periods of sustained attention, and they are of longer duration.

When one accomplishes the fourth attentional state, called *close placement*, the attention is stabilized to the point that one does not entirely disengage from the meditative object for the full duration of each session. The third and fourth states are achieved chiefly by the cultivation of mindfulness, and the principle emphasis up to that point is on the development of attentional stability, rather than vividness. In fact, Buddhist contemplatives have found that if one strives initially for ever greater vividness, that effort will actually undermine the development of stability. With the attainment of close placement, the power of mindfulness is well exhibited, gross attentional stability is achieved, and one is free of gross excitation.

Particularly at this point in the training, it is very easy to fall into complacency, feeling that one has already achieved the aim of sustained, voluntary attention. In reality, one is still very much subject to subtle excitation and to both gross and subtle laxity, and Tsongkhapa warns that if one fails to recognize these flaws, continued practice of this sort may actually impair one's intelligence. William James was also aware of pathological cases in which the mind is possessed by a fixed and ever monotonously recurring idea, and he concluded that those were the only cases in which the attention does become fixed on an unchanging object (James, 1950, I, p. 423). Buddhist contemplatives maintain that mental health can be retained and even enhanced as long as one cultivates a high degree of vividness in such sustained attention.

Thus, the fifth attentional state, called *taming*, and the sixth, called *pacification*, are achieved with the force of introspection, with which one closely monitors the

meditative process, watching for the occurrence of laxity and subtle excitation. In the stage of taming, gross laxity, in which the vividness of the attention is missing, is dispelled; and in the phase of pacification, subtle excitation is eliminated, so that even peripheral distractions have disappeared.

By that time, an increasing sense of joy and satisfaction arises while meditating, so the seventh and eighth attentional states of *complete pacification* and *single-pointed attention* are achieved by the force of enthusiasm. In the seventh state even subtle laxity, in which the full potency of attentional vividness is not brought forth, is eliminated; and at the point of single-pointed attention the mind can dwell with utter stability and vividness on its chosen object for hours on end, without the occurrence of even subtle laxity or excitation. William James predicted that if the attention were concentrated on a mental image long enough, it would acquire before the mind's eye almost the brilliancy of a visually perceived object (*ibid.* p. 425), and this is exactly what Buddhist contemplatives report from their experience at this point in the development of *Samatha*.

With the attainment of the ninth state called *balanced placement*, accomplished with the force of familiarization, only an initial impulse of will and effort is needed at the beginning of each meditation session; for after that, uninterrupted, sustained attention occurs effortlessly. Moreover, the engagement of the will, of effort, and intervention at this point is actually a hindrance. It is time to let the natural balance of the mind maintain itself without interference.

The Attainment of *Samatha*

Even when one has reached the state of balanced placement, *Samatha* has still not been fully achieved. Its attainment is marked first by a dramatic shift in one's nervous system, characterized briefly by a not unpleasant sense of heaviness and numbness on the top of the head. This is followed by an obvious increase in mental and then physical pliancy, entailing a cheerfulness and lightness of the mind and a buoyancy and lightness of the body. Consequently, experiences of physical bliss and then mental bliss arise, which are temporarily quite overwhelming. But that rapture soon fades, and with their disappearance, the attention is sustained firmly and calmly upon the meditative object, and *Samatha* is fully achieved. The above claims concerning a shift in one's nervous system and its consequences have to do with first-hand, empirical, physiological experiences. It remains to be seen how, or whether, such a theory and the corresponding physiological changes can be detected objectively and understood in modern scientific terms.

With the achievement of *Samatha*, one disengages the attention from the previous meditative object, and the entire continuum of one's attention is focused single-pointedly, non-conceptually, and internally in the very nature of consciousness; and the attention is withdrawn fully from the physical senses. Thus, for the first time in this training, one does not attempt to recall a familiar object or mentally engage with it. One's consciousness is now left in an absence of appearances, an experience that is said to be subtle and difficult to realize. Only the aspects of the sheer awareness, clarity, and joy of the mind appear, without the intrusion of any sensory objects. Any thoughts that arise are not sustained, nor do they proliferate; rather they vanish of

their own accord, like bubbles emerging from water. One has no sense of one's own body, and it seems as if one's mind has become indivisible with space.

While remaining in this absence of appearances, even though it is still not possible for a single moment of consciousness to observe itself, one moment of consciousness may recall the experience of the immediately preceding moment of consciousness, which, in turn, may recall its immediately preceding moment — each moment having no other appearances or objects arising to it. Thus, due to the homogeneity of this mental continuum, with each moment of consciousness recalling the previous moment of consciousness, the experiential effect is that of consciousness apprehending itself.

The defining characteristics of consciousness recollectively perceived in that state are first a sense of *clarity*, or implicit luminosity capable of manifesting as all manner of appearances, and secondly the quality of *cognizance*, or the event of knowing. Upon attaining *Samatha*, by focusing the attention on the *sheer* clarity and the *sheer* cognizance of experience, one attends to the defining characteristics of consciousness alone, as opposed to the qualities of other *objects* of consciousness.

The Use of Non-ideation as the Object in *Samatha* Practice

If one's chief aim in developing *Samatha* is to ascertain the nature of consciousness, one might ask whether a more direct strategy — without mentally engaging with a mental image or any other object — might be used. Many Buddhist contemplatives have in fact trained in an alternative technique of cultivating non-conceptual attention from the outset, without focusing on any other object such as a mental image. In this method the eyes are left open, gazing vacantly into the space in front of one. According to Buddhist psychology, this space is a type of form that is apprehended by mental, and not sensory, perception (Hopkins, 1983, p. 233). Mentally, one completely cuts off all thoughts of the past, future, and present. Bringing no thoughts to mind, one lets the mind remain like a cloudless sky, clear, empty, and evenly devoid of grasping onto any kind of object.

In this, as in all other techniques for the development of *Samatha*, attentional stability and vividness are cultivated by means of mindfulness and introspection. Here, the object of mindfulness is the mere absence of ideation, and with introspection one monitors whether the mind has come under the influence of excitation or laxity. Tsongkhapa especially emphasizes that while following this method, one must *ascertain* the absence of ideation as one's meditative object, rather than simply letting one's mind go blank. His concern here, I presume, is to ensure that the meditator does not mentally drift into a nebulous trance, but maintains an actively engaged intelligence throughout this training. In this way, one progresses through the nine attentional states explained previously. Eventually *Samatha* is achieved, and — as in the previous method — it is characterized by joy, clarity and non-conceptuality.[10]

Buddhist contemplatives raise the question as to whether this non-conceptual state of *Samatha* actually transcends all conceptual structuring and modification and whether the mere suppression of ideation is sufficient for entering a totally non-conceptual state of awareness. The eminent Tibetan Buddhist contemplative Karma

[10] A clear discussion of this technique is found in the section entitled 'The cultivation of attention' in Karma Chagmé (1998).

Chagmé (1612–1678) voices the general consensus within the Tibetan tradition when he asserts that although this state may easily be mistaken for conceptually unstructured awareness, it is not unmodified by ideation; for one still maintains the conceptual sense that one's attention is being sustained in the absence of conceptualization (Karma Chagmé, 1998, p. 82) .

Settling the Mind in Its Natural State

There is something contrived about the above state of non-conceptuality, for during the training that leads to it, the mind has been artificially withdrawn from appearances and ideation has been suppressed. The consciousness of which one perceives the characteristics of joy, clarity, and non-conceptuality is one that has been conceptually isolated from its normal conceptual processes and from the variety of appearances with which it is normally engaged. The question may then be raised, 'Is it not possible to identify the natural characteristics of consciousness *in the midst of the mind's activity, without suppressing ideation*? After all, consciousness is obviously present and active while thoughts arise, so in principle there seems no reason why it could not be identified.

It was for this purpose that the technique of 'settling the mind in its natural state' has been devised and taught within the Indo-Tibetan Buddhist tradition (Dalai Lama & Berzin, 1997, pp. 37–142; Karma Chagmé, 1998, p. 80). This method, like all other techniques for developing *Samatha*, entails freeing the mind from distraction, so that one's attention is not compulsively carried away by either mental or sensory stimuli. However, this method is exceptional in that the attention is not fixed upon any object. Here one gazes steadily into the space in front of one, but without visually focusing on anything. Mentally, one brings the attention into the domain of the mind, and whenever any type of mental event is observed — be it a thought, an image, a feeling, a desire, and so on — one simply takes note of it, without conceptually classifying it, and without trying to suppress or sustain it. Letting one's mind remain at ease, one watches all manner of mental events arise and pass of their own accord, without intervention of any kind. Settling one's awareness in the present, the attention is not allowed to stray off in thoughts concerning the past or the future, nor does one latch onto any object in the present.

Normally when thoughts arise, one conceptually engages with the *referents*, or intentional objects, of those thoughts, but in this practice one perceptually attends to the thoughts themselves, without judging or evaluating them. The heart of the practice is allowing one's consciousness to remain in its 'natural state', limpid and vivid, without becoming embroiled in fluctuating emotions and habitual thought patterns.

While following this practice, one alternately seeks out the consciousness that is engaging in this meditation and then releases one's awareness once again. This is said to be an effective means of dispelling laxity. The eighth-century Indian Buddhist contemplative Padmasambhava (1998) describes this technique as follows:

> Having nothing on which to meditate, and without any modification or adulteration, place your attention simply without wavering, in its own natural state, its natural limpidity, its own character, just as it is. Remain in clarity, and rest the mind so that it is loose and free. Alternate between observing who is concentrating inwardly and who is releasing. If it is the mind, ask, 'What is that very agent that releases the mind and concentrates the

> mind?' Steadily observe yourself; and then release again. By so doing, fine stability will arise, and you may even identify awareness (p. 106).

The result of this practice, he says, is that flawless *Samatha* arises, such that wherever the awareness is placed, it is unwaveringly present, unmoved by adventitious thoughts, and vividly clear, without being sullied by laxity, lethargy, or dimness. In this way, too, the sheer clarity and cognizance of consciousness can be recognized.

The Alleged Trait Effects of Accomplishing *Samatha*

In addition to various, valuable state effects of attaining *Samatha*, which were mentioned earlier, a number of trait effects are also claimed by Buddhist contemplatives. Following such meditation, afflictive emotional states such as aggression and craving are said to occur less frequently and are of briefer duration than previously. Even when negative mental processes arise, one does not readily succumb to them, and one's mind remains calm and dispassionate. Moreover, particularly as a result of settling the mind in its natural state, one experiences a non-conceptual sense that nothing can harm one's mind, regardless of whether or not ideation has ceased. In between meditation sessions, as one goes about normal, daily activities, one experiences a heightened sense of attentional vividness; and it seems as if even one's sleep were suffused with exceptional concentration, and one's dream-life takes on special significance. These claims are psychologically and physiologically significant, and they lend themselves to being tested scientifically so that we can understand more precisely what is meant by 'attentional vividness' and the other purported shifts in consciousness while sleeping and dreaming.

The Buddhist tradition also claims that once one has accomplished *Samatha*, various forms of extrasensory perception and paranormal abilities can be developed with relative ease. These include such abilities as perceiving the minds of others, recalling one's previous lifetimes, moving through solid objects, walking on water, multiplying one's own form, and so on. For an intelligent person educated in the modern west, one's first reaction to such claims may be to dismiss them without a second thought. I personally do not know whether any or all of these claims are valid. It does seem to me, however, that many of the Buddhist contemplatives making such assertions have engaged in rigorous, sustained, attentional training that are either undeveloped or long forgotten in the West. In short, they have run experiments in consciousness that are unknown to modern science. Therefore, dismissing such claims without any attempt to put them to the empirical test is an unscientific, purely dogmatic response. On the other hand, to accept such claims without any attempt to put them to the empirical test is just one more unscientific, dogmatic response.

Claims of extrasensory perception and paranormal abilities are quite common within the Buddhist tradition, in which no theoretical principles refute the possibility of such attainments, and numerous methods are taught and practised to acquire them. Recall the earlier cited statement of the Buddha, 'All phenomena are preceded by the mind. When the mind is comprehended, all phenomena are comprehended.' This is followed by an equally provocative assertion, 'By bringing the mind under control, all things are brought under control.'[11] Modern science, on the other hand has appar-

[11] *Ratnameghasutra*, cited in Śāntideva (1961), p. 68.

ently assumed the opposite perspective: When the environment and the body, and specifically the brain, are brought under control, the mind is brought under control. Hence, in order to bring about a sense of comfort and well-being and freedom from suffering and fear, the modern west has sought techniques to control the environment, and maintain fine physical health; and it has produced a stunning array of drugs to control the mind, enabling people to relax, to become mentally aroused and alert, to sleep, to relieve anxiety, to overcome depression, to counteract attentional disorders, to improve the memory, to experience euphoria, bliss, and even alleged mystical states of consciousness.

While the modern western approach is remarkably empowering to those who create, market, and distribute the above types of technology and drugs, it is profoundly disempowering for the individual. The Buddhist approach, on the other hand, provides little incentive to the rigorous, sustained, extraspective investigation of physical processes and to the development of technology. Given the current, unprecedented encounter of the ancient Buddhist tradition and modern science, there is no reason that we should be forced to choose one to the exclusion of the other; though the question of which one to emphasize more strongly is a matter of personal inclination.

The ultimate aim of the practice of *Samatha* is not simply to ascertain the primary characteristics of consciousness or to attain exceptional mental powers. Rather, it is to realize the ultimate nature of awareness, free of all conceptual mediation and structuring, transcending even the concepts of existence and non-existence. Such primordial awareness, known in this tradition as 'the Buddha-nature', is said to be our essential nature, and it is the fathomless well-spring of intuitive wisdom, compassion, and power. For exceptional individuals, the previously described method of settling the mind in its natural state may be sufficient for gaining such realization; but for most people, further training beyond *Samatha* is required, but that would take us beyond the scope of this paper.[12]

Prolegomena to a Future Contemplative Science

By the end of the nineteenth century, many physicists were utterly convinced that there were no more great discoveries to be made in their field — their understanding of the physical universe was in all important respects complete. One of the few lingering problems to be solved was known as the 'ultraviolet catastrophe', which had to do with the incompatibility of entropy-energy formulae derived from classical thermodynamics. The solution to this problem came from Max Planck, who thereby laid the foundation for modern quantum theory, which shook the very foundations of physicists' views of the universe.[13]

While there is certainly no comparable sense that the cognitive sciences have formulated a comprehensive theory of the brain and mind — far to the contrary! — many experts in this field have concluded beyond a shadow of a doubt that consciousness is produced solely by the brain and that it has no causal efficacy apart from the brain. The fact that modern science has failed to identify the nature or origins of consciousness and that it is far from even discovering the brain correlates of consciousness in

[12] For a discussion of such techniques for realizing the primordial nature of awareness, see Karma Chagmé (1998), chs. 4–6, and Padmasambhava (1998), pp. 114–40.

[13] For a fascinating account of this problem and its radical solution, see Whittaker (1954), Ch. 3.

no way diminishes the certainty of those holding materialist views of the mind. When empirical knowledge of the nature and potentials of consciousness replace these current metaphysical assumptions, I strongly suspect that the 'problem of consciousness' will turn out to have a role in the history of science comparable to that of the ultraviolet catastrophe.

The most effective way to acquire such knowledge, I believe, is by a concerted, collaborative effort on the part of professional cognitive scientists and professional contemplatives, using their combined extraspective and introspective skills to tackle the hard problem of consciousness. This might entail, among other things, longitudinal studies of the gradual development of *Samatha* by people devoting themselves to this training with the same dedication as displayed by the scientists and engineers employed for the Manhattan Project. The successful completion of those efforts to tap atomic and nuclear power changed the face of the modern world. The successful completion of a Samatha Project might do so as well, and if such an endeavour were pursued with the altruistic aims promoted by Buddhism and the other great contemplative traditions of the world, the consequences for humanity may be more uniformly beneficial.

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